

## REPORT DOCUMENTATION PAGE

*Form Approved  
OMB No. 0704-0188*

The public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to the Department of Defense, Executive Service Directorate (0704-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

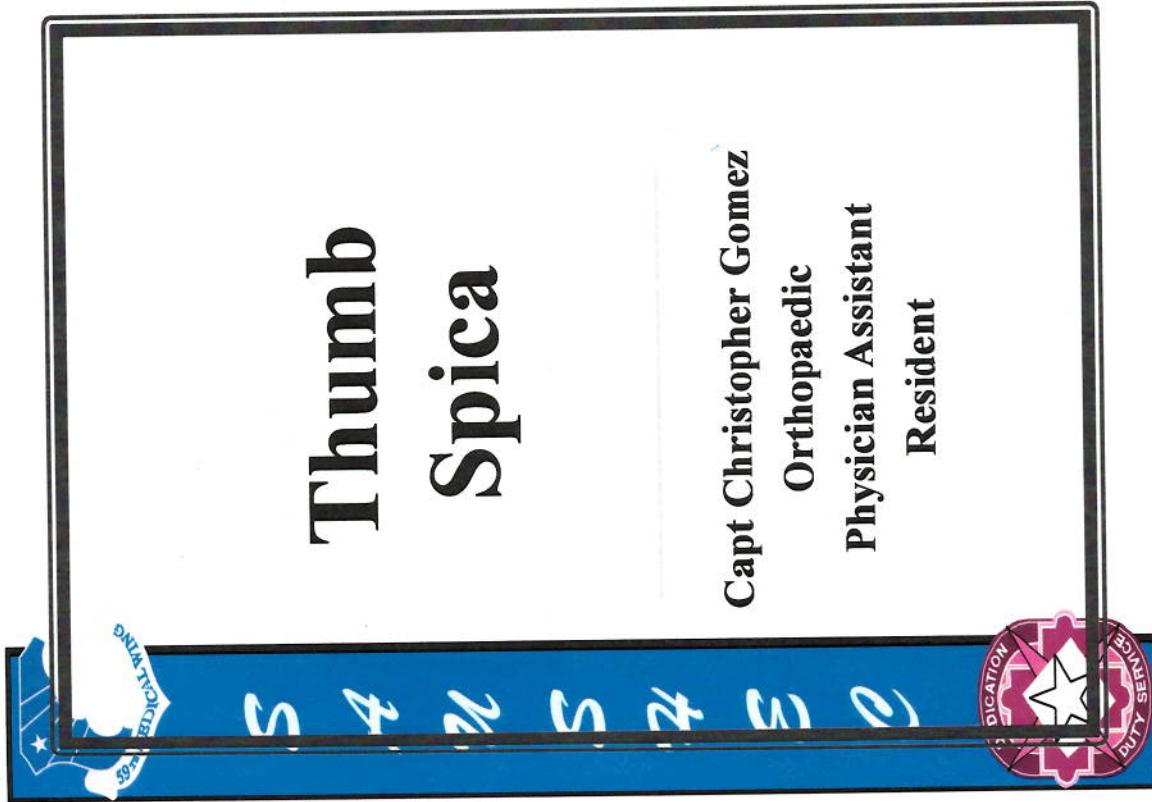
**PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ORGANIZATION.**

1. REPORT DATE (DD-MM-YYYY) 08/21/2017	2. REPORT TYPE	3. DATES COVERED (From - To) 08/21/2017-08/25/2017		
4. TITLE AND SUBTITLE Casting and Splinting		5a. CONTRACT NUMBER		
		5b. GRANT NUMBER		
		5c. PROGRAM ELEMENT NUMBER		
6. AUTHOR(S) Capt Christopher Gomez		5d. PROJECT NUMBER		
		5e. TASK NUMBER		
		5f. WORK UNIT NUMBER		
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) 59th Clinical Research Division 1100 Willford Hall Loop, Bldg 4430 JBSA-Lackland, TX 78236-9908 210-292-7141		8. PERFORMING ORGANIZATION REPORT NUMBER  17323		
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) 59th Clinical Research Division 1100 Willford Hall Loop, Bldg 4430 JBSA-Lackland, TX 78236-9908 210-292-7141		10. SPONSOR/MONITOR'S ACRONYM(S)		
		11. SPONSOR/MONITOR'S REPORT NUMBER(S)		
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release. Distribution is unlimited.				
13. SUPPLEMENTARY NOTES				
14. ABSTRACT				
15. SUBJECT TERMS				
16. SECURITY CLASSIFICATION OF: a. REPORT    b. ABSTRACT    c. THIS PAGE		17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON Clarice Longoria
		19b. TELEPHONE NUMBER (include area code) 210-292-7141		



# Thumb Spica

Capt Christopher Gomez  
Orthopaedic  
Physician Assistant  
Resident



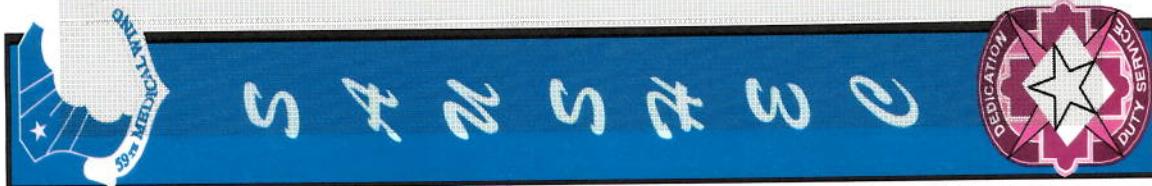
## Disclaimer

“The views expressed are those of the presenter(s) and do not reflect the official views or policy of the Department of Defense or its Components”



# Overview

- Indications
- Cast Vs Splint
- Materials Needed
- General Principles
- Splint
- Cast
- Self Evaluation
- Points to Discuss with Patient



# Indications

- Injuries to: (ex)
  - Scaphoid
  - Trapezium
  - First Metacarpal, non displaced, non angulated
  - Stable Thumb Fractures
- Can also be used for soft tissue rest
  - De Quervain Tenosynovitis



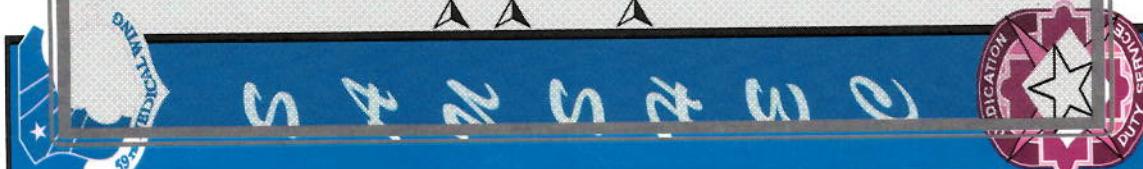
# Cast Vs Splint

## Casting

- Definitive Management
- Does not allow for continued swelling
- Better control of ROM

## Splinting

- Acute Management
- Allows for continued swelling
- ROM limited by application and compliance



# Materials Needed

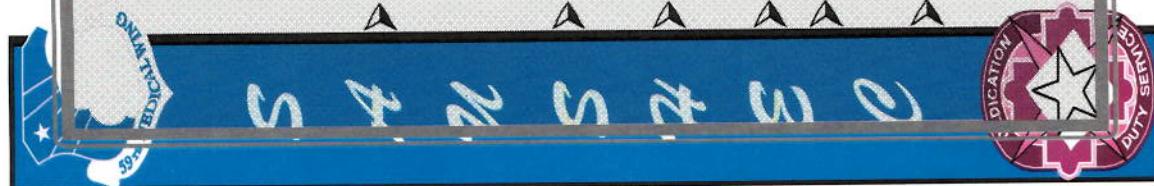


- Stockinette
- Trauma Shears
- ACE Wrap
- Padding (Webril)
- Water Receptacle
- Splinting Material
  - Plaster of Paris, Pre-fabricated plaster or fiberglass (Orthoglass)
- Casting Material
  - Fiberglass



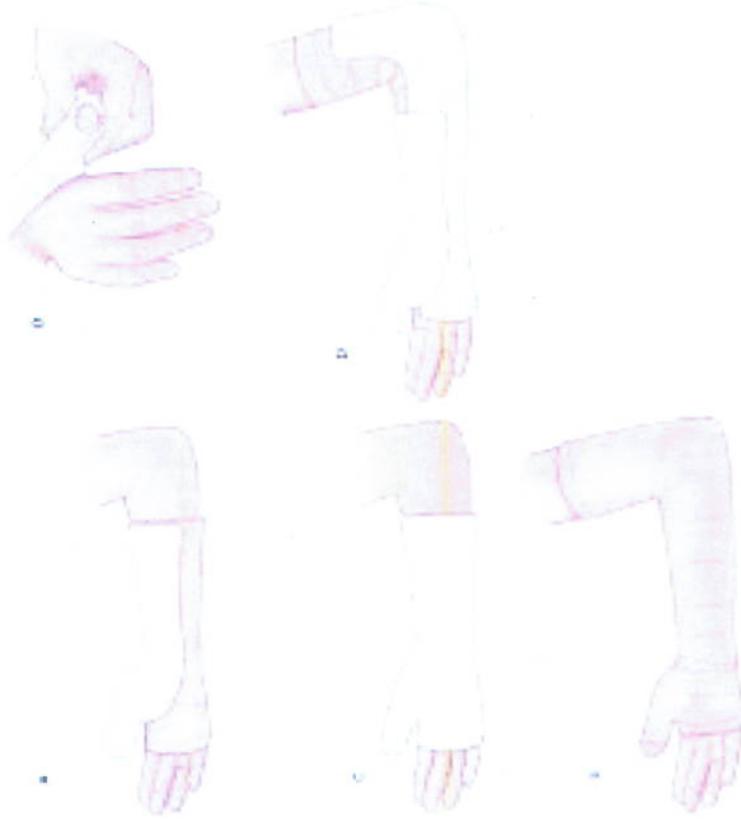
## General Principles

- Measure out dry material at extremity being treated
  - Plaster shrinks slightly when wet; If too long can fold ends back
  - Can be measured on contralateral extremity
  - Apply 2-3 layers of webril, avoid wrinkles, place extra padding on bony prominences and between digits if needed
  - Use approximately 10-12 layers of splinting material (dependent on size of individual)
- Mold with palms of hand vs fingers
- After complete check for function, arterial pulse, capillary refill, temperature of skin, and sensation
- Plain films to evaluate injury and splint/cast



# Splinting Order

- Apply stockinette and/or webril first
- Apply wet/prepared splinting material
- Cover with webril
- Secure with elastic (ACE) band
- Mold splinting material as needed



S A U S T E C





# Casting Order

Apply stockinette first, then webril

Apply wet/prepared initial casting  
material

Fold over excessive stockinette

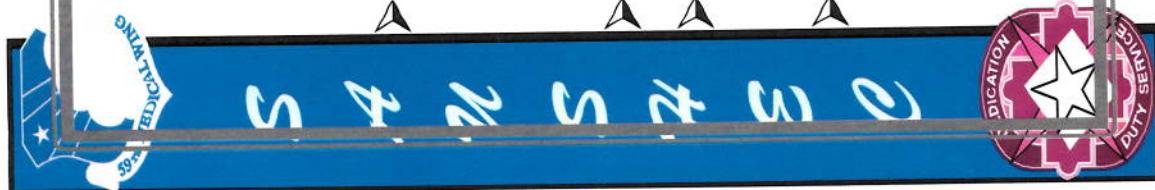
Apply second layer of wet/prepared  
casting material

Mold casting material as needed



## Self Evaluation

- Is injured extremity in desired position?
- For thumb spica its forearm in neutral position, wrist at 25 degrees and thumb in “wineglass/can holding” position
- Does injured extremity maintain good color, temp, and cap refill
- Was a long arm vs short arm thumb spica used for non displaced fractures of middle or proximal one third of scaphoid for initial management
- Was thermal injuries avoided by ensuring water was not hot and cast was not too thick



# Patient Education

- Elevate injured extremity at home
- Prop on pillow if needed
- Continue moving other fingers, elbow, and shoulder periodically throughout the day
- If cast feels tight despite elevation seek medical assistance
- Do not scratch under cast; do not get cast wet
- Get immediate assistance if:
  - Numbness (pins and needles) of fingers
  - Excessive swelling of fingers
  - Blueness or whiteness of fingers
  - Severe pain



## Conclusion

- Indications
  - Cast Vs Splint
  - Materials Needed
  - General Principles
  - Splint
  - Cast
  - Self Evaluation
  - Points to Discuss with Patient
- 



# Contact Information

---

Christopher Gomez, Capt, PA-C, BSC  
Orthopaedic Surgery Resident  
San Antonio Military Medical Center  
Christopher.gomez11.mil@mail.mil